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Citation

Moradi, Ali. 2015. ““Ceramic” Databases Improve the Retrospective Studies in Orthopedic Surgery.” Archives of Bone and Joint Surgery 3 (2): 71.

Permanent link

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EDITORIAL

“Ceramic” Databases Improve the Retrospective Studies in Orthopedic Surgery

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Technology has affected all aspects of our lives, but it seems that it does not penetrate to clinical research centers as much as other fields. For example, technology could be used to promote the quality of “Retrospective” studies as much as it become near to the “Prospective” studies. Orthopedics research centers, especially “Hand and upper extremity services” are good places to start. When we want to set a retrospective study, there is always a lack of accurate objective and subjective data. Perhaps, this is the major reason we tend to utilize prospective studies instead (1-3). Nowadays, with the help of technology, we can overcome this problem.

To improve objective data gathering in a clinic, we can use electronic gadgets directly connected to data servers to decrease incorrect or insufficient data. Numerous types of electronic dynamometer directly connect to computers. For example, a device could show and record grip strength. Moreover, with the help of technology it is possible to design superior measuring devices. Imagine a device which could measure and automatically record all upper extremity ROM with certain movements while the patient standing in front of it in a few seconds (such as navigation system recently have been used to guide the surgeon in total knee arthroplasty). For subjective evaluations, a simple VAS questionnaire for pain paired with a function-measuring instrument (like Quick DASH) that records automatically in software, which can be used for both

follow-up and research use can complete our collection at the time of visit.

And at last, comprehensive software, which has the capability of importing data in a statistical file like Excel.

With the help of technology, patient data at the time of visit could be quickly gathered with enough accuracy to rely on them like a prospective data.

Gathering the data in such a comprehensive way, making our databases uniform and subsequently we can compare each group of patients with others similar to a well-done prospective study. Moreover, the data are available any time and you can compare the groups immediately and come to conclusion. We named such databases as “Ceramic” databases which is different from traditional “Mosaic” databases. In Ceramic databases, we gather uniform data, both for objective signs (range of motion, grip strength, etc.) and subjective symptoms (for example Quick DASH and VAS scores in upper extremity) for all patients visiting in clinic. Similar data will be gathering during follow-up sessions. Therefore, you always will have necessary information related to different conditions and outcomes to compare. Ceramic databases are not only providing uniform data for all patients but also they have the privilege of comparing conditions and long follow-ups.

Maybe it is time to work on it!

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